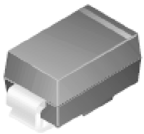
July 2007

ES1F - ES1J

Fast Rectifiers

Features

- For surface mount applications.
- Glass passivated junction.
- Low profile package.
- Easy pick and place.
- Built-in strain relief.
- Superfast recovery times for high efficiency.



SMA(DO-214AC)
Color Band Denotes Cathode

Absolute Maximum Ratings * T_a = 25°C unless otherwise noted

Symbol	Parameter	Value				Units
		ES1F	ES1G	ES1H	ES1J	
V_{RRM}	Maximum Repetitive Reverse Voltage	300	400	500	600	V
$I_{F(AV)}$	Average Rectified Forward Current	1.0				A
I_{FSM}	Non-repetitive Peak Forward Surge Current 8.3 ms Single Half-Sine-Wave (JEDEC method)	30				A
T_J	Junction Temperature	150				°C
T_{STG}	Storage Temperature Range	-55 to 150				°C
P_D	Power Dissipation	1.47				W

* These ratings are limiting values above which the serviceability of any semiconductor device may by impaired.

Thermal Characteristics

Symbol	Parameter	Value	Units
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient *	85	°C/W
$R_{\theta JL}$	Thermal Resistance, Junction to Lead *	35	°C/W

* P. C. B mounted on 0.2" x 0.2"(5 x 5 mm) copper Pad Area.

Electrical Characteristics T_C = 25°C unless otherwise noted

Symbol	Parameter	Value		Units
V_F	Maximum Forward Voltage @ I_F = 1.0 A	1.3	1.7	V
T_{rr}	Maximum Reverse Recovery Time I_F = 0.5 A, I_R = 1.0 A, I_{RR} = 0.25 A	35		ns
I_R	Maximum Reverse Current @ rated V_R T_A = 25°C T_A = 100°C	5.0 100		uA
C_j	Typical Junction Capacitance V_R = 4.0 V, f = 1.0 MHz	10.0	8.0	pF

Typical Performance Characteristics

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

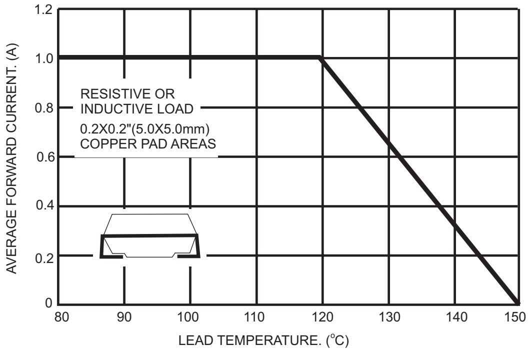


FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

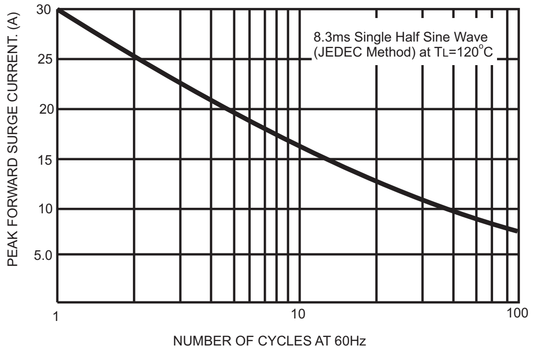


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

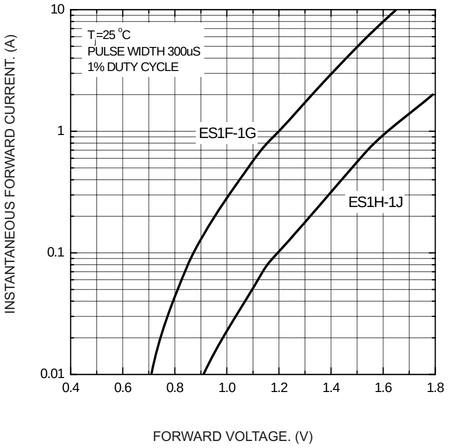


FIG.4- TYPICAL REVERSE CHARACTERISTICS

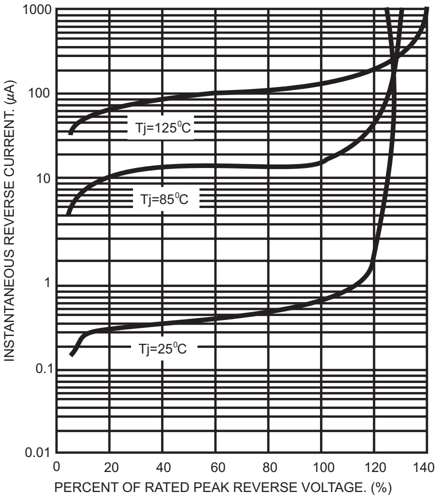
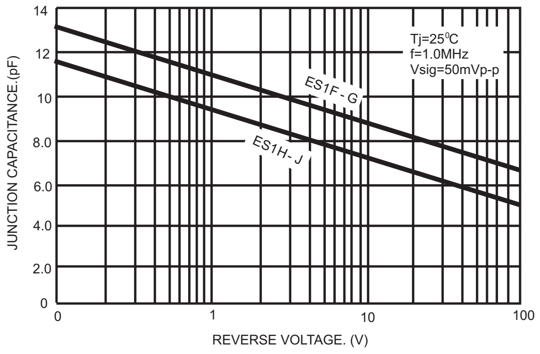
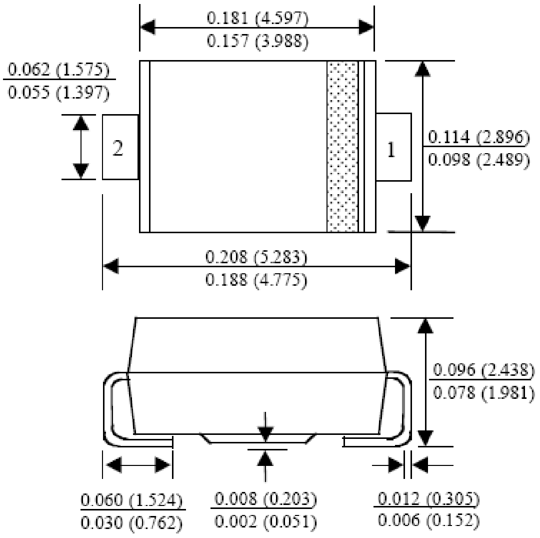


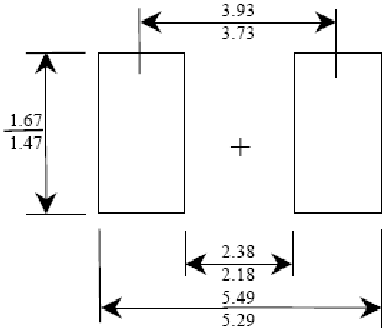
FIG.5- TYPICAL JUNCTION CAPACITANCE



Package Dimensions

SMA / DO - 214AC





Minimum Recommended
Land Pattern

Dimensions in Millimeters

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Power247®
POWEREDGE®
Power-SPM™
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